

Amendments to the Drawings

Please delete all of drawings 1-21 and replace them with new drawings 1-6, copies of which are enclosed herewith.

Additional explanation of the new drawings is provided in the Remarks section below.

REMARKS

Claims 2-4 and 7-20 are pending in the present application ("Application"). By the present amendment, claims 2 and 9 are amended and new claim 21 is added. Claims 4 and 9-20 have been identified as being directed to allowable subject matter. The Applicant appreciates this indication by the Examiner.

The Applicant respectfully requests reconsideration of the Application in view of these amendments and the following remarks.

I. EXAMINER INTERVIEW

On January 31, 2006, the undersigned held a telephone interview with the Examiner to discuss the pending Office Action. The interview included three topics: (1) correction of the typographical error resulting in the Examiner's indefiniteness rejection of claims 9-20; (2) the rejection of claim 2 as anticipated by Ball, U.S. Patent No. 1,434,520 ("Ball Patent"); and (3) entry of replacement drawings for the Application.

The majority of the discussion focused on topic (2). The undersigned pointed out to the Examiner several fundamental differences between the Ball disclosure and the invention of the Application. In particular, it was pointed out that the purpose of the Ball apparatus was the removal of sludge from a sewage stream. This is accomplished by separating sludge material by centrifugal action in a first container, drying the sludge in a second chamber, and wafting dried sludge particles into a "dust collection chamber." In contrast, the systems of the Application are adapted for complete or nearly complete digestion of the sludge. (See Abstract.) Nowhere in the Application is there a suggestion that sludge be separated and removed from the system.

It was discussed in the interview that claim 2 recites the actions of "draining liquid from the reaction container to allow at least a portion of the microbes and undigested organic material to dry within the reaction container" and "receiving an additional stream of materials to be treated into the reaction chamber with said at least a portion of the microbes and undigested organic material." The Examiner expressed the position that the Ball Patent discloses these steps. The undersigned suggested that because the Ball device separates out the sludge and dries it in a separate chamber, new waste materials are not "treated into the reaction chamber with the [dried materials]." The Examiner disagreed, saying that, in his view, the dried materials and the newly added materials are still in the same "chamber" in the sense that they are all within the outer case of the Ball device.

The undersigned submitted that in the claimed processing system the additional stream of materials wets and interacts with the dried materials so that the microbes in the dried material assist in digesting the additional organic material. This enhances the digestion efficiency of the system, which is the point of the wet/dry cycle discussion on pages 1-3 in the specification. This is in direct contrast to the action of the Ball device, in which the dried sludge material is accumulated in a separate chamber and does not interact with the incoming waste stream.

The Examiner stated that, by amending claim 2 to include language clarifying that the additional waste materials interact with the dried materials, the claim would likely be distinguishable over the Ball Patent (pending further scrutiny of the Ball Patent).

With respect to the drawings, the Examiner indicated that it would be acceptable to delete some or all of the existing drawings and submit new drawings. He cautioned, however, that the final drawings must include any details from the originals that are necessary to support the claims.

II. REPLACEMENT DRAWINGS

Enclosed with the present amendment are replacement drawings to be substituted for the drawings filed with the application. New Figures 1-4 depict the processing system described in original Figures 1-21, but with extraneous details and callouts omitted and with revised labels. New Figure 5 depicts the system described in the original specification on pages 4 and 5. New Figure 6 is a flow diagram of the method described on page 4, lines 10-26 of the specification.

The undersigned believes that no new matter is introduced in the details of the substitute drawings.

The text of the specification has been amended to provide corresponding reference numbers for Figures 5 and 6 and to replace the single paragraph of the Description of the Drawings with descriptions of each of the replacement drawings.

III. THE CLAIMS ARE NOT INDEFINITE

Claims 9-20 stand rejected under 35 U.S.C. § 112, second paragraph as being assertedly indefinite due to a lack of an antecedent for "the microbes" in lines 6, 7 and 10 of claim 9. Claim 9 has been amended to correct the typographical omission of the words "and microbes," which were inadvertently left out of the previous amendment. The insertion of these words provides the necessary antecedent.

The Applicant submits that claim 9 as amended is not indefinite and requests that the rejection of claims 9-20 under 35 U.S.C. § 112 be withdrawn.

IV. THE CLAIMS ARE PATENTABLE OVER THE CITED PRIOR ART

A. Paragraph 2 Rejection of Claims 2, 3, 7 and 8

Claims 2, 3, 7 and 8 stand rejected under 35 U.S.C. § 102(b) as being assertedly anticipated by Ball, U.S. Patent No. 1,434,520 ("Ball Patent"). The Applicant respectfully traverses this rejection. The Applicant also traverses the objection to claim 4 based on its dependence on a rejected claim.

1. Claim 2

Claim 2 as amended recites a process for digesting materials. The process comprises providing a reaction container having a medium disposed therein and receiving a stream of materials to be treated into the reaction container. The stream of materials includes organic waste material and microbes capable of digesting at least a portion of the organic material. The process further comprises holding the materials in the reaction container for a time interval sufficient to allow the microbes to digest at least a portion of the organic material in a bacterial growth phase. The process also comprises draining liquid from the reaction container to allow at least a portion of the microbes and undigested organic material to dry within the reaction container. Finally, the process comprises receiving an additional stream of materials to be treated into the reaction chamber with the dried microbes and undigested organic material. The additional stream of materials includes additional organic waste material and microbes and wets the at least a portion of the microbes and undigested organic material.

2. The Ball Patent

The Ball Patent is directed to a sewage purifying system. The system serves to treat sewage by (1) collecting liquid sludge by sedimentation, (2) reducing the liquid sludge to "coagulated consistency" by mechanical means, (3) subjecting the coagulated sludge to treatment by bacterial or oxidizing action, and (4) collecting the oxidized sludge in a dry state. Ball Patent, page 1, lines 39-45. The system includes an outer casing H in which is disposed a revoluble dewatering chamber B. Ball Patent page 1, lines 55, 79-82 and Figure 1. The dewatering chamber is configured to receive sludge trapped in a sump section of a sewage line and to use centrifugal action to force sludge particles outward and upward so that they are discharged from the dewatering chamber into a second

chamber surrounding the dewatering chamber. Ball Patent, page 1, lines 62-73 and Figure 1. When discharged from the dewatering chamber, the sludge is sprayed on to annular defecating screens E positioned within the outer chamber. Ball Patent, page 1, lines 62-73 and page 2, lines 66-75. An air fan F supplies heated air to dry the sludge on the screens E and float dried sludge particles to a dust collecting chamber K. Ball Patent, page 2, lines 86-105.

Once the screens E become charged with sludge, a secondary treatment of the sludge is initiated in which light, air and heat are applied to produce a secondary bacterial action. Ball Patent, page 2, line 130 to page 3, line 6. In order to establish this secondary bacterial action, the revolving action of the dewatering chamber must be halted. Ball Patent, page 1, lines 106-09. During this time, there is no discharge of material from the dewatering chamber, and the air current produced by the fan flows through the oxidized sludge and carries it to the dust collection chamber. Ball Patent, page 3, lines 11-17.

3. The Ball Patent Does Not Disclose the Features of Claim 2

The Applicant respectfully submits that the Ball Patent does not disclose the features of claim 2. In particular, the Ball Patent does not disclose the actions of draining liquid from the reaction container to allow at least a portion of the microbes and undigested organic material to dry within the reaction container, then receiving an additional stream of materials to be treated into the reaction chamber with the dried microbes and undigested organic material. The Ball Patent discloses that fresh waste material is introduced into the dewatering chamber. Sludge material is removed from the dewatering chamber and dried outside this chamber. The dried sludge is then carried out of the drying chamber to the dust accumulator. At no time is the dried sludge in the same space as the fresh waste material.

Because the dried sludge is segregated from the fresh waste material in the Ball device, it cannot be wetted by that material as recited in claim 2.

For at least the above reasons, the Applicant submits that claim 2 is patentable over the Ball Patent. The Applicant therefore requests that the rejection of claim 2 under 35 U.S.C. § 102(b) be withdrawn.

4. Claims 3, 4, 7 and 8

Claims 3, 4, 7 and 8 are dependent on claim 2, which has been shown to be patentable over the Ball Patent. The Applicant submits that by virtue of their dependency, claims 3, 7 and 8 must

also be patentable over the Ball Patent. The Applicant therefore requests that the rejection of claims 3, 7 and 8 and the objection to claim 4 be withdrawn as well.

V. NEW CLAIM

New claim 21 is an independent claim added to the Application by the present amendment at the suggestion of the Examiner. In paragraph 3 of the Office Action, the Examiner noted that claim 4 would be allowable if rewritten in independent form including all the limitations of the base claim. Claim 21 is a recitation of the features of claim 4 along with the features of claim 2 as recited in the amendment filed January 4, 2006. No new matter is presented by the addition of claim 21.


VI. CONCLUSION

For at least the reasons set forth above, the Applicant respectfully submits that claims 2-4 and 7-20 are in condition for allowance. The Applicant therefore requests that the present application be allowed and passed to issue.

Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact the Applicant's undersigned representative.

Dated: February 27, 2006

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